

NORTH DAKOTA DEPARTMENT OF HEALTH
PUBLIC NOTICE TO
ISSUE AN UNDERGROUND INJECTION CONTROL PERMIT
And
EXEMPT A PORTION OF THE DAKOTA AQUIFER

June 26, 2014

PURPOSE OF PUBLIC NOTICE

THE PURPOSE OF THIS NOTICE IS TO STATE THE DEPARTMENT'S INTENTION TO ISSUE A CLASS I UNDERGROUND INJECTION CONTROL PERMIT AND TO EXEMPT A PORTION OF THE DAKOTA AQUIFER UNDER THE AUTHORITY OF ARTICLE 33-25 OF THE NORTH DAKOTA ADMINISTRATIVE CODE.

PERMIT INFORMATION

APPLICANT NAME:	Great River Energy
MAILING ADDRESS:	12300 Elm Creek Boulevard. Maple Grove, MN 55369
FACILITY LOCATION:	Coal Creek Station 2875 Third Street SW Underwood, ND 58576
TELEPHONE NUMBER:	763-441-3121
APPLICATION NUMBER:	ND-UIC-106

Underground Injection Control Permit

It is the intent of the Department of Health, Division of Water Quality to issue a Class I underground injection control permit (Permit) for one Class I non-hazardous waste underground injection well at Great River Energy's Coal Creek Station in McLean County, North Dakota. The injection well will dispose of plant process water that cannot be reused at the facility. The permitted waste stream consists of water from the process water recycle system (PWRS), in particular, water from the Drains Pond facility. The PWRS consists of the Drains Pond, two coal combustion product (CCP) management facilities (Ash Pond 91 and Upstream Raise), Evaporation Pond 91, the ash water conveyance tanks, and the scrubbers. Monitoring is required to confirm that the injection stream remains non-hazardous.

The targeted injection zone is the Inya Kara formation, which is part of the Dakota Group, at a depth of between 3,550 and 3,900 feet below ground surface.

The injection zone is located approximately 2,325 feet below the Fox Hills formation, which is currently identified as the lower most underground source of drinking water in the vicinity of Coal Creek Station. The maximum permitted injection rate for Well #1 is 500 gallons per minute (gpm). The permit will be issued for a five year period, beginning on the date the permit is signed by the Director of Water Quality.

Dakota Aquifer Exemption

The Department proposes to request the Environmental Protection Agency to approve an aquifer exemption for a portion of the Dakota aquifer underlying Coal Creek Station, in accordance with the provisions of North Dakota Administrative Code 33-25-01.

The water quality of the Dakota aquifer is poorly defined near the proposed injection site due to a lack of available well data. Data from oil and gas well drilling files suggest that the TDS concentration is likely between 5,000 and 7,000 mg/l, but it may be less than 3,000 mg/l or more than 10,000 mg/l. As part of GRE's underground injection permit application, a mass balance mix of chemistries, measured at several wells nearest to Coal Creek Station, was used to calculate a probable aquifer TDS value of 6,369 mg/l at the plant site. Consequently, an aquifer exemption is required to inject Coal Creek Station's plant water into the Dakota aquifer.

GRE submitted an Aquifer Exemption Request to the NDDH to allow injection of excess water into the Dakota aquifer. The boundary of the proposed area of aquifer exemption is a portion GRE's Coal Creek Station that comprises an area of approximately 5 square miles. Particle tracking modeling was used to estimate the distance that a particular constituent injected into the Dakota aquifer would travel during 50 years of continuous injection at a rate of 500 gpm. A conservative estimate is that these chemical constituents will travel at the same velocity as water particles. Under these conditions, the most mobile constituents are expected to travel no more than one-half mile from the injection well, meaning that they will not leave the confines of GRE's property boundary or the proposed aquifer exemption area.

In February 1983, the North Dakota Industrial Commission (NDIC) applied for, and was granted, an exemption for the Dakota aquifer for Class II injection wells in the western part of North Dakota. This exemption is defined by a collection of townships and ranges; GRE's Coal Creek Station lies within the exempted area.

The Class II injection well exemption was approved based on four arguments:

- The Dakota aquifer did not serve as a source of drinking water in the proposed exempted area;

- The depth of Dakota aquifer in the proposed exempted area (2,000 feet – 5,000 feet below ground surface) was such that recovery of water to supply a public water system would have been economically impractical;
- The quality of water in the Dakota aquifer in the proposed exempted area (4,000 – 10,000 mg/l) was such that treatment of the water for human consumption would have been economically impractical; and
- That in the exempted area, the higher quality and shallower Tertiary and Upper Cretaceous aquifers would be capable of supplying sufficient water for public consumption.

An aquifer exemption for the Dakota aquifer already exists within Coal Creek Station's property boundaries for Class II injection wells. While not directly applicable to GRE's proposed Class I non-hazardous well, the Class II exemption provides support and precedent for a Class I exemption. The NDDH will submit a request to the Environmental Protection Agency asking that the Dakota aquifer below the property boundary of GRE's Coal Creek Station be exempted from protection as an underground source of drinking water for Class I underground injection wells.

PUBLIC COMMENTS AND HEARING

The Draft Permit will be available for public review and comment for thirty (30) days following publication of the Public Notice. The public comment period begins June 26, 2014 and ends July 25, 2014. Interested persons may submit written comments to the Department on the Draft Permit during this period. The Department has tentatively scheduled a Public Hearing on the Draft Permit on July 18, 2014 at 1:30 pm at the Environmental Training Center located at 2639 East Main Avenue, Bismarck, ND. The hearing will be held if there is sufficient public interest pertaining to the proposed Draft Permit. Interested persons may request a public hearing by stating the nature the specific issues to be raised.

If sufficient public interest is not raised and a hearing is not requested by July 14, 2014, the hearing will not be conducted. Please check <http://www.ndhealth.gov/DoH/PublicNotices.aspx> or call the Department at 701-328-5210 on or after July 14, 2014 for confirmation of the hearing.

The North Dakota Department of Health will consider all comments prior to taking any action on the permit. Comments, questions, and written communication should be directed to:

Karl Rockeman, Director
North Dakota Department of Health
Division of Water Quality

918 East Divide Avenue, 4th Floor
Bismarck, ND 58501-1947

The Draft Permit, Fact Sheet, and Permit Application are available for review during the hours of 8:30 a.m. to 4:30 p.m., Monday through Friday, at the North Dakota Department of Health, Division of Water Quality, 918 East Divide Avenue, 4th Floor, Bismarck, North Dakota. A copy of this Public Hearing Notice is also on the Department's website at: <http://ndhealth.gov>

Anyone requiring special access or accommodations to review the Draft Permit may contact the Department at 701-328-5210.

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